Sub C1

CLAIMS

CLAIM 1. A method for radiating thermal energy from a terrestrial position into deep space comprising:

arranging a thermal energy transmitting material over a terrestrial object; and,

positioning said thermal energy transmitting material so that a transmitting surface thereof faces deep space, said material having spectral surface properties of high emissivity in a spectral band substantially transparent to the atmosphere of the earth.

CLAIM 2. The method of Claim 1 wherein said terrestrial object is covered with the transmitting material only at internals during which the object is not in direct sunlight.

CLAIM 3. The method of Claim 1 wherein said material has a normal spectral emissivity ranging from about 0.8 to about 1.0.

CLAIM 4. The method of Claim 1 wherein said material has a low absorptivity in all spectral bands.

CLAIM 5. The method of Claim 4 wherein said material has an absorptivity ranging from about 0.3 to about 0.0.

CLAIM 6. The method of Claim 1 wherein the spectral band is selected from the group consisting of about 8μm to about 13μm, about 3μm to about 4μm, and about 0.7μm to about 2.7μm.

CLAIM 7. The method of Claim 3 wherein the material comprises a suspension of a spectral substance in a polymeric base.

CLAIM 8. The method of Claim 7 wherein the spectral substance is selected from the group consisting of carbon black acetylene soot, camphor soot, zinc sulfide, silver chloride, potassium chloride, and zinc selenide.

CLAIM 9. The method of Claim 5 wherein the material comprises a coating that reflects incoming thermal infrared electromagnetic energy.

Sub B5

CLAIM 10. A device for transmitting thermal energy from a terrestrial object into deep space comprising:

a thermal energy transmitting material designed to cover a terrestrial object and positioned with a transmitting surface thereof facing deep space, said transmitting material having spectral surface properties of high emissivity in a spectral band substantially transparent to the atmosphere of the earth.

CLAIM 11. The device of Claim 10 wherein said material has a normal spectral emissivity ranging from about 0.8 to about 1.0.

CLAIM 12: The device of Claim 10 wherein said material has a low absorptivity in all spectral bands. .

CLAIM 13: The device of Claim 12 wherein said material has an absorptivity ranging from about 0.3 to about 0.0.

CLAIM 14. The method of Claim 10 wherein the spectral band is selected from the group consisting of about 8μm to about 13μm, about 3μm to about 4μm, and about 0.7μm to about 2.7μm.

CLAIM 15. The device of Claim 10 wherein the thermal energy transmitting material is disposed within a pressure cell having a pressure less than ambient pressure.

CLAIM 16. The device of Claim 11 wherein the material comprises a suspension of a spectral substance in a polymeric base.

CLAIM 17. The device of Claim 16 wherein the spectral substance is selected from the group consisting of carbon black acetylene soot, camphor soot, zinc sulfide, silver chloride, potassium chloride, and zinc selenide.

CLAIM 18. The device of Claim 13 wherein the material comprises a coating that reflects incoming thermal infrared electromagnetic energy.

Sub a6

CLAIM 19. An electricity generating device for use in an environment having an ambient pressure, using an electricity generating cell comprising:

a first junction surface disposed in contact with a first semiconductor material;

a second junction surface disposed in contact with a second semiconductor material;

a third junction surface disposed in contact with the first semiconductor material and the second semiconductor material; and

the first and second junction surfaces at a temperature different from the third surface junction producing a thermoelectric potential between the first and second junction surfaces.

CLAIM 20. An electricity generating device as set forth in claim 19, wherein

the electricity generating cell has a thermal resistivity;

the first semiconductor material is disposed in a distance between the first junction surface and the third junction surface; and

the first semiconductor material has a geometry which increases said thermal resistivity as compared to a second electricity generating cell having a first semiconductor material having a straight geometry which spans a substantially equivalent distance.

CLAIM 21. An electricity generating device as set forth in claim 20, wherein said geometry is curved, coiled, snaking, or a combination thereof.

CLAIM 22. The device of Claim 10 wherein said thermal energy transmitting material is positioned in thermal contact with a heat transfer surface

CLAIM 23. The device Claim 22 disposed within a pressure cell having a pressure less than ambient pressure.